

Assessing and managing groundwater in Ethiopia

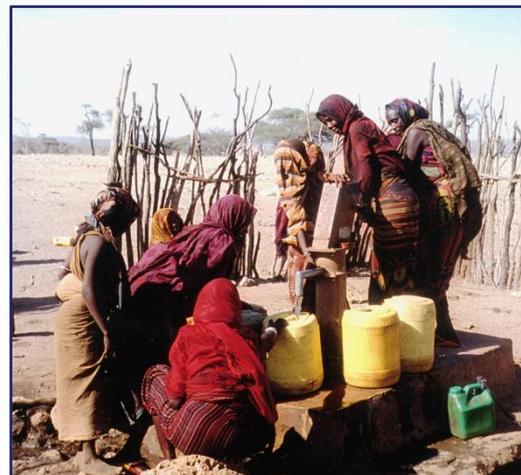
The challenge...

Over 70% of Ethiopia's water supply comes from groundwater, and only 34% of the population has access to an improved water supply. Groundwater investigation is, therefore, indispensable for ensuring sustainable and judicious use of water resources. Isotope hydrology has become a standard tool in the country's strategy for future water resource development, as contained in the national master plan, the Ethiopian Groundwater Resources Assessment Programme (EGRAP). EGRAP has been incorporated into the national Water Sector Strategic Development Programme and has been submitted to the Ministry of Finance and Economic Development (MFED) for funding.

The project...

The IAEA's technical cooperation programme has been assisting Ethiopia with groundwater assessment and management for over 14 years.

With the aim of assessing groundwater potential, providing a reliable scientific and technical basis for water resource exploration, development and management, and building understanding of groundwater and surface water systems and the impacts of droughts and floods, a range of projects have provided expertise and capacity building through training, fellowships and the procurement of essential equipment.



Local inhabitants filling canisters with water in Ethiopia.

The impact...

IAEA technical cooperation activities have supported the establishment of the Ethiopian National Groundwater database (ENGDA), and continuing IAEA assistance has led to significant achievements in the analysis of factors underlying the severe drought conditions experienced in large areas of Ethiopia. A comprehensive plan to integrate isotope hydrology into the Ethiopian Groundwater Resource Assessment Programme (EGRAP) has also been elaborated. The database will support improved management of water resources nationwide and provides an important archive of information for future studies.

Ethiopia's increased capacity to understand coupled regional groundwater and surface water systems means that the Government can now anticipate and mitigate the impacts of droughts and floods, maintain and enhance ecosystem services, and reduce the risk of resource overexploitation.

An isotope hydrology laboratory has been established at Addis Ababa University and is fully operational. The laboratory is able to meet national needs for up to date data on available groundwater resources to plan for the development and management of the national water sector.

A national plan to make the hydrology laboratory economically viable and generate local funds to cover running costs and maintenance of equipment acquired through the TC projects is also being implemented.